SUPPORT FOR THE AMENDMENTS

Support for the amendment of Claims 1 and 2 is found on page 5, lines 1-2, and in Examples 1, 4, 5, 8, 9 and 11 on page 8, in the specification.

No new matter will be added to this application by entry of this amendment.

Upon entry of this amendment, Claims 1-17 are active.

REMARKS/ARGUMENTS

The claimed invention is directed to an aluminum brazing sheet for the manufacture of parts of automobile radiators, including the header and the side plate. An aluminum brazing sheet having high strength, reduced pressure adhesion failure during clad-rolling and providing high productivity is sought.

The claimed invention addresses this problem by providing aluminum brazing sheets as presently described in Claims 1 and 2 and claims dependent thereon.

Applicants respectfully note that Claims 1 and 2 are herein amended to recite a mass % of Mg in the cladding material is from 0.52 to 0.7 %.

No such aluminum brazing sheet is disclosed or suggested in the cited reference.

Applicants wish to thank Examiner Zimmerman for the courteous and helpful discussion of the above-identified application with Applicants' U.S. representative on October 2, 2008. At that time the amended language of Claims 1 and 2 was reviewed and contrasted with the description of the cited reference. The following reiterates and expands upon that discussion.

The rejection of Claims 1-17 under 35 U.S.C. 103(a) over Syslak et al. (WO 02/090031) is respectfully traversed.

Syslak neither discloses nor suggests the aluminum alloy brazing sheet as presently described in Claims 1 and/or 2 of the present invention.

Syslak describes a brazing sheet for a heat exchanger, with a core material of an aluminum alloy and a brazing aluminum alloy metal clad on at least one side of the core (Claim 1).

An inner cladding layer comprises: 0.7-1.5 wt.% Mn, maximum 1.2 wt.% Si, maximum 0.6 wt.% Fe, maximum 0.5 wt.% Cu, 1.0-2.0 wt.% Zn, 0.5 wt.% Mg, maximum 0.5 wt.% Ti and a total of 0.15 wt.% other elements with the balance aluminum (Page 5, lines 22-26 and Claim 9). Applicants respectfully note that the inner cladding layer "is on the waterside of tube and header to enhance the overall strength of the components and also to enhance the waterside erosion/corrosion resistance.

In contrast, the presently claimed invention is directed to an aluminum brazing sheet, wherein the cladding material is made of the aluminum alloy compositions listed in the following table:

TABLE

	Claim 1	Claim 2	Syslak
Mg (mass %)	**From 0.52-0.7**	**from 0.52-0.7**	**0.5**
Si (mass %)	0.5-1.5	0.5-1.5	Maximum 1.2
Mn (mass %)	0.4-1.2	0.4-1.2	0.7-1.5
Zn (mass %)		0.3-6.0	1.0-2.0
Fe(mass %)			Maximum 0.6
Cu(mass %)			Maximum 0.5
Ti (mass %)			Maximum 0.5
Other Elements (mass %)			0.15

The balance of the composition in each of the alloys described in the Table is aluminum.

Applicants have described the importance of the cladding layer composition as follows:

> "In such a cladding material conventionally employed, a large amount of Mg has been added to improve the strength. However, in the present invention, the amount of Mg added to a cladding material is significantly reduced to 0.7 mass% or less, and the reduction in the strength due to the reduction in the added amount of Mg is complemented by the addition of Si and Mn. **Since the added amount of Mg is small, the generation of pressure adhesion failure such as a blister may be prevented upon laminating the core material and the cladding material through rolling working. In this manner, the high strength and high productivity of an aluminum brazing sheet can be implemented by reducing the added amount of Mg and by the addition of Si and Mn.**"(page 4, lines 6-18)(Bold added)

Applicants respectfully submit that Syslak does not disclose or suggest the alloy compositions, in total combination, as in of Claims 1 and 2 of the present invention which contains from 0.52 to 0.7 mass% Mg, 0.5 to 1.5 mass % Si and 0.4 to 1.2% Mn. In contrast, Syslak allows for no Si or Si up to 1.2%. This reference does not disclose or suggest reduction of pressure adhesion failure as described above by Applicants. Applicants point to the Comparative Example data in Table I, which is reproduced below for the Examiner's convenience.

No.		Composition of cladding material				Post-brazing strength	Pressure adhesion property
		Mg	Si	Mn	Zn		
Comparative Example	12	2.20	0.06	0.00	1.5	O	×
	13	0.53	0.02	0.00	1.34	×	O
	14	2.20	0.06	0.00	1.5	O	×
	15	0.53	0.02	0.00	1.34	×	O
	16	0.3	0.4	0.4	1.5	×	O
	17	0.7	0.4	1.2	1.5	×	O~Δ
	18	0.2	1.2	1.2	1.5	×	O
	19	0.7	1.2	0.3	1.5	×	O~Δ
	20	0.8	0.5	0.4	0.5	O	×
	21	0.5	2.0	0.4	1.5	Test piece unable to be processed	×
	22	0.5	1.0	1.4	0.5	162O	×

Applicants particularly note that in Examples 13 and 15, the Mg content is in the range of the claimed invention; however Si and Mg are not and post brazing strength is poor. In Example 17, the Mg and Mn contents are in the range of the claimed invention, but the Si content is not. Again, the post brazing strength of this sample is poor. In Example 19, Mg and Si are in the claimed range and Mn is not. Post brazing is rated poor. Finally in Example 20 Mg and Si are in the claimed range; Mg is not. In this example the pressure adhesion property is inferior.

Applicants have shown in Examples 1, 4, 5, 8 and 9 the claimed composition results in good performance of both post brazing strength and pressure adhesion.

Applicants respectfully submit that the performance results according to the claimed invention is neither disclosed or suggested by the cited reference and therefore, this reference can neither anticipate nor render obvious the presently claimed invention. Withdrawal of the rejection of Claims 1-17 under 35 U.S.C. 103(a) over Syslak et al. is respectfully requested.

Applicants respectfully submit that the above-identified application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

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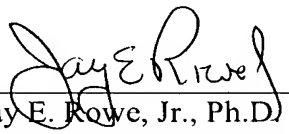

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